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Final Report

Project Title:

Crisis Management in Transportation: Building Capacity through Exercises

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The New England University Transportation Center is a consortium of 8 universities funded by the U.S. Department of Transportation, University Transportation Centers Program. Members of the consortium are MIT, the University of Connecticut, University of Maine, University of Massachusetts, University of New Hampshire, University of Rhode Island, University of Vermont and Harvard University. MIT is the lead university.

Problem Addressed:

Building on research conducted in part with UTC Year 20 funding, this project examined the experience of organizations from the “second circle” of the emergency response community – including surface transportation agencies – in using exercises and drills as a form of disaster preparedness. (“Second circle” organizations are defined as those whose core missions do not focus on the delivery of emergency response services but which still perform important response functions during major disasters.)

In particular, the research team focused on how a set of second circle agencies in select metropolitan areas have trained their personnel in utilizing the National Incident Management System (NIMS), a national template for coordinated organization, operational command, and implementation of response. Among other things, researchers explored how these agencies have used NIMS training to prepare their personnel for a range of potential disaster situations, increase proficiency in emergency response skills, and to become more integrated into a comprehensive emergency management system that reaches across agency, jurisdictional, and level-of-government boundaries. (This study of how transportation systems prepare for disaster situations is well-aligned with the NEUTC’s theme – *strategic management of disruptive change in transportation systems*, specifically the focus on *disruptive environments*.)

Research Approach and Methodology:

Project researchers used several different methods employed by political scientists and policy analysts to comparatively study decision-making and institutional processes.

The study team conducted a thorough and systematic review of academic literature, government reports, and other materials pertaining to exercising and training and NIMS implementation, placing particular emphasis on the experience of “second circle” response organizations, including those responsible for surface transportation. Relevant materials were identified and obtained, catalogued, reviewed, and summarized. This work culminated in the publication of an extensive literature review that explored the general state of research (including remaining research gaps) and summarized key concepts pertaining to the topic.

The researchers also organized a set of personal interviews with city, state, and federal officials familiar with planning and emergency operations in select metropolitan areas and about the federal government’s programs to support transportation agencies. To prepare for these interviews, they conducted background research on the sites and developed semi-structured, elite interview protocols appropriate for officials by type of job position. (Although *not* quantitatively analyzable, as would be the case in survey research, these types of interviews permit extended answers by respondents and subsequent follow-up questions by the interviewer, providing researchers with valuable data that informs project findings.)

Research Findings/Conclusions/Recommendations:

The researchers published their literature review through the Program on Crisis Leadership, Harvard Kennedy School's discussion paper series. Among other findings, the authors noted that:

- In the past several years, the U.S. Department of Homeland Security (DHS) has emphasized the centrality of exercises for improving preparedness.
- Exercising is especially important in regard to NIMS implementation and utilization, as it is a relatively new concept for many organizations and sectors and is predicated on the interaction of multiple actors.
- In the post-Katrina era, the federal government has made progress in developing training programs dedicated to NIMS, including those that are tailored to fit the specific needs of second circle organizations.
- All the same, most NIMS-oriented training consists of individual learning, as opposed to team-based exercises (an interesting disconnect, given that NIMS is a team-oriented system). Moreover, a considerable amount of this training emphasizes technical knowledge at the expense of developing problem-solving and group decision-making skills.
- Second circle organizations perceive the benefits of exercises differently than traditional first responders, finding them particularly useful for acquiring new knowledge and for increasing awareness in regard to teamwork.
- As other researchers have also concluded, DHS may want to consider modifying its exercises program to take into account the limited amount of time and resources second circle organizations can devote to emergency preparedness training.

In addition, findings associated with this project informed several publications by the principal investigator and his colleagues on crisis response issues.¹ Additional publications are forthcoming. Related concepts were also presented and discussed in a suite of Harvard executive education programs and extension school classes offered by the principal investigator that focus on emergency preparedness, crisis leadership, and disaster recovery.²

¹ For a list of publications produced during the period of performance for this grant, please visit <http://www.hks.harvard.edu/programs/crisisleadership/publications/articles>.

² For a listing of the courses, please visit <http://www.hks.harvard.edu/programs/crisisleadership/education>.